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PATENT (5500-91600/TT5403) IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/700,033

Filed: November 3, 2003

Inventor(s):

Gregory William Smaus

Gregory William Smaus Mitchell Alsup

Title: Instruction Cache Prefetch
Based on Trace Cache

**Eviction** 

Examiner: Cody, Dillon J. Group/Art Unit: 2183

Atty. Dkt. No: 5500-91600

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, M/S Office of Initial Patent Examination, Customer Service Center, P.O. Box 1450, Alexandria, VA 22313-1450, on the date indicated below.

Name of Registered Representative

May 16, 2006

Signature

Date

Robert C. Kowert

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:		
1449		cant requests consideration of  the references listed on the attached Form PTO- the additional information identified below in paragraph 3.
	$\boxtimes$	A copy of each required reference listed on the Form PTO-1449 is enclosed.
,		The references listed on the Form PTO-1449 were previously cited in application serial no to which the captioned application is seeking priority under 35 U.S.C. §120; therefore, a copy of each reference is not enclosed.
1.	This 1	Information Disclosure Statement is submitted:
•	a.	within 3 months of the filing date of a national application other than a continued prosecution application under § 1.53(d); within 3 months of the date of entry of the national stage as set forth in § 1.491 in an International application; before the mailing date of a first Office Action on the merits; or

			before the mailing of a first Office Action after the filing of a request for continued examination under § 1.114.
	b.		after the events of above paragraph 1a and prior to the mailing date of a final Office Action or Notice of Allowance, and thus:   the certification of paragraph 2 below is provided, or a fee of \$180.00 (authorized below).
	c.		after the mailing date of a final Office Action or a Notice of Allowance and prior to payment of the issue fee, and thus: the certification of paragraph 2 below is provided and a fee of \$180.00 is enclosed.
2.	It is her	reby cer	tified:
		was ci	ch item of information contained in this Information Disclosure Statement ted in a communication from a foreign patent office in a counterpart a application not more than three (3) months prior to the filing of the tent; or
		was ci foreign after n	ted in a communication from a foreign patent office in a counterpart application or, to the knowledge of the person signing the certification making reasonable inquiry, was known to any individual designated in § more than three (3) months prior to the filing of the Statement.
		was ci applica designa	ch item of information contained in this Information Disclosure Statement ited in a communication from a foreign patent office in a counterpart ation and that this communication was not received by any individual ated in § 1.56(c) more than thirty (30) days prior to the filing of the ation disclosure statement;
3.	$\boxtimes$		deration of the following additional information (including any co-pending addoned U.S. applications, prior uses and/or sales, etc.) is requested:
	,		U.S. Application Serial No. 10/615,506 (5500-79500) U.S. Application Serial No. 10/726,902 (5500-88700) U.S. Application Serial No. 10/755,742 (5500-90300) U.S. Application Serial No. 10/676,437 (5500-88800)
4.	For eac	h non-E	English language reference listed on the attached Form PTO-1449:
		referen	nce is made to an English language translation submitted herewith, and/or
			nce is made to a foreign patent office search report (in the English ge) submitted herewith, and/or
,			nce is made to an English language translation of a foreign patent office report submitted herewith, and/or
			nce is made to the concise explanation contained in the specification of the tapplication at page(s), and/or

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		reference is made to the concise explanation set forth below:
5.		Applicant also offers the following comments for the Examiner's consideration:
6.		Also enclosed is a copy of a foreign search report citing these references.
7.		The listed documents were brought to the attention of the Applicant(s) after payment of the issue fee in the captioned case. The documents were cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. Applicant(s) request this Information Disclosure Statement and attached Form PTO-1449 be placed in the file of the captioned application.
8.		Applicant(s) requests that the Information Disclosure Statement and attached Form PTO-1449 and references, which are being filed before the grant of the patent and pursuant to 37 C.F.R. § 1.97(i), be placed in the file of the captioned application.
	If any	required fees are missing, the Commissioner is authorized to charge said fees to
Meyer	tons, H	ood, Kivlin, Kowert & Goetzel, P.C. Deposit Account No. 501505/5500-
91600/	RCK	

Respectfully submitted,

Robert C. Kowert Reg. No. 39,255

Attorney for Applicant(s)

MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. P. O. Box 398 Austin, Texas 78767 (512) 853-8800

PTO/SB/08A (07-05)
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Substitute for form TO Modified	Complete if Known		
	Application Number	10/700,033	
INFORMATION DISCLOSUDE	Confirmation No.:	3398	
INFORMATION DISCLOSURE	Filing Date:	November 3, 2003	
STATEMENT BY APPLICANT	First Named Inventor:	Gregory William Smaus	
(Use as many sheets as necessary)	Art Unit:	2183	
	Examiner Name:	Cody, Dillon J.	
Sheet 1 of 2	Attorney Docket Number:	5500-91600	

			U. S. PATE	NT DOCUMENTS	
Examiner Initials*	Cite No. <sup>1</sup>	Number-Kind Code (if known)	Publication Date MM- DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-2004/0143721	7/04	Pickett, et al.	
-		US-7,003,629	2/21/06	Alsup	
· · · · · · · · · · · · · · · · · · ·		US-6,247,121	6/01	Akkary, et al.	
		US-3,896,419	7/75	Lange, et al.	
		US-5,381,533	1/10/95	Peleg	
		US-6,449,714	9/10/02	Sinharoy	
		US-6,339,822	1/15/02	Miller	
		US-6,256,727	7/3/01	McDonald	
		US-6,185,675	2/6/01	Kranich, et al.	
		US-6,345,295	2/02	Beardsley, et al.	
		US-5,930,497	7/99	Cherian, et al.	
		US-6,578,128	6/03	Arsenault, et al.	
		US-6,973,543	12/05	Hughes	,
	-	US-6,823,428	11/23/04	Rodriguez, et al.	
		US-6,167,536	12/00	Moann	
		US-6,357,016	3/02	Rodgers, et al.	
		US-2002/0144101	10/02	Wang, et al.	
-		US-2003/0023835	1/03	Kalafatis, et al.	
		US-2004/0083352	4/04	Lee	
		US-2004/0193857	9/04	Miller, et al.	
		US-2005/0125632	6/05	Alsup, et al.	
		US-			

		FOREIGN PA	ATENT DOCUMEN	TS		
Examiner	Cite	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of	Pages, Columns, Lines, Where Relevant Passages	Check if English
Initials*	No.¹	Country Code-Number-Kind Code (if known)		Cited Document	Or Relevant Figures Appear	Translation is attached
	.A1	GB 2 281101	4/23/03			
	A2	EP 0 957 428	11/17/99			

Examiner	Date Considered	
Signature	•	,

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application. 'Applicant's unique citation designation number (optional).

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /BJ/

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Substitute for form 1449/PTO Modified			Complete if Known		
			Application Number	10/700,033	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)  Sheet 2 of 2			Confirmation No.: Filing Date: First Named Inventor: Art Unit: Examiner Name: Attorney Docket Number:	03 1 Smaus	
			RATURE DOCUMENTS		
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LI item (book, magazine, journal, serial, symponumber(s), publisher, city and/or country wh	osium, catalog, etc.), date, (page(s), v	ppriate), title of the olume-issue	Check if English Translation is attached
	A3	Yuan Chou, et al., "Instruction Pat	h Coprocessors," March 2000	, pp. 1-24.	
	A4	Friendly, et al., "Putting the Fill Ut Trace Cache Microprocessors," De Sciences, The Univ. of Michigan,	ept. of Electrical Engineering		
	A5	Bryan Black, et al., "Turboscalar: Microarchitecture," Dept. of Electron Mellon Univ., June 2000, pp. 1-		ng, Carnegie	
	A6	Rotenberg, et al., "Trace Cache: A Low Latency Approach to High Bandwidth Instruction Fetching," April 11, 1996, pp. 1-48.			
A7 Merten, et al., "An Architectural Framework for Ro June 2001, pp. 1-43.			ramework for Run-Time Opti	ptimization,"	
	A8	Jourdan, et al., "Increasing the Inst		ough Data-	
		Flow Manipulation," Intel, 11 page			600000000000000000000000000000000000000
	A9	Hinton, G., et al., "A 0.18-MUM ( Execution Unit," IEEE Journal of November 2001, pages. 1617-162'	Solid-State Circuits, Vol. 36,		
	A10	Sanjay J. Patel, et al., "replay: A Hardware Framework for Dynamic Optimization," IEEE, Vol. 50, No. 6, June 2001, pp. 590-608.			
	A11	Jacobson, et al., "Instruction Pre-P January 1999, 6 pages.	Processing in Trace Processors		
-	A12	Bryan Black, et al., "The Block-Ba	ased Trace Cache," IEEE, 199	99, pp. 196-207.	🗆
	A13	Rotenberg, et al., "Trace Cache: a Instruction Fetching," IEEE, 1996		gh Bandwidth	
	A14	Grant Braught, "Clas #21-Assemblers, Labels & Pseudo Instructions," Dickenson College, Fall Semester 2000, 6 pages.  Patterson, et al., "Computer Architecture A Quantitative Approach," Second Edition, Morgan Kaufmann Publishers, Inc., 1996, pp. 271-278			
	A15				
	A16	Palmer, et al., "Fido: A Cache Tha International Conference on Very 1991, pp. 255-264.	at Learns to Fetch," Proceeding	gs of the 17 <sup>th</sup> September	
• .	A17	Chen et al., "Eviction Based Cach 2003 Annual Technical Conference		es," USENIX	

No Date

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Examiner	/Brian Johnson/	Date Considered	05/04/2009	1
Signature	/ Ditail collison		00/01/2000	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application. Applicant's unique citation designation number (optional).

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /BJ/